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BUREAU OF PLANT INDUSTRY

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THE PLANT DISEASE REPORTER

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OFFICE OF MYCOLOGY AND DISEASE SURVEY

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OFFICE NOTES

HOST INDEX OF PLANT PATHOLOGICAL LITERATURE

The maintaining of a card index file of the world's literature on plant pathology is one of the important activities of the Plant Disease Survey. At present the file is estimated to contain nearly 200,000 cards and is arranged alphabetically by host and parasite in 384 card drawers. It is estimated that at least 32,000 new card entries will have been made during 1929.

The foundation for this file is the index recently acquired from the Plant Quarantine and Control Administration. These are now being combined with those of the Plant Disease Survey and although the work progresses rather slowly it is expected to have the task completed by next spring. Even now the cards relating to most of the more important crops have been reorganized and arranged so that they are available for use.

The Plant Disease Survey wishes to announce that all research workers may feel free to consult this valuable file.

DISEASES OF VEGETABLES

SALSIFY YELLOWS

In his studies on aster yellows, Kunkel (1) successfully transferred the yellows virus by means of the leaf hopper Cicadula sexnotata from aster to salsify (Tragopogon porrifolius) and then reinfected aster. He illustrates the diseased salsify plant in comparison with a healthy one and states that it was chlorotic, somewhat stunted, and produced many small secondary shoots. He does

not report having observed the yellows on salsify in nature.

On September 19, 20, and 21 the writers made observations in seven salsify patches, three in the vicinity of Hagerstown, Md., three near Harrisburg, Pa. and one near York, Pa. Yellows was found in all of these fields. At Hagerstown from 4 to 5 per cent infected plants was estimated in each patch. At Harrisburg two patches showed 5 per cent, while another small planting showed only about 2 per cent. The York patch contained about 3 per cent. Plants showed all stages of disease from a slight retardation of growth with slight yellowing on the one hand to an extreme dwarfing, and development of supernumerary, narrow, chlorotic, mis-shapen leaves on the other hand. The roots of diseased plants were correspondingly reduced in size and one of the growers said there was a tendency for them to be poorly shaped with numerous side shoots. In all cases the infected individual plants were scattered throughout the plantings. Aster plants with yellows were commonly noted.

Aside from Kunkel's work the only other reference to this disease seems to be the Plant Disease Survey report of Dr. Charles Chupp in 1927 from New York which records the occurrence of what undoubtedly was this same disease from Nassau and Suffolk Counties, Long Island, N. Y. He said: "The trouble is rather common in Nassau County. Plants have many more leaves than normal.. These leaves are much shorter and thinner than usual and are almost colorless". This New York report seems to be the first record of natural occurrence. (R. J. Haskell and W. A. Archer, Sept. 23)

COTTON DISEASES IN VIRGINIA

Twenty-three cotton fields totalling 150 acres examined in Nansemond County showed from a trace to 1 per cent more or less, of anthracnose (Colletotrichum gossypii) in most fields up to 15 per cent in two fields. Angular leaf spot (Bacterium malvacearum) was general in occurrence. (James Godkin, Sept. 13)

WILT OF LETTUCE IN MONTANA

A serious wilt identified tentatively by I. C. Jagger as stunt due to Pythium sp. occurred in one field of head lettuce near Bozeman. The Xyleum of the roots and crowns was browned, and the leaves wilted. (P. A. Young, Aug.)

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1. Kunkel, L. O. Studies on aster yellows. Amer. Jour. Bot. 13: 646-705. Dec. 1926.

ANISE DROP

By

J. J. Taubenhaus, W. J. Bach and Walter N. Ezekiel

Anise or sweet fennel (Foeniculum vulgare Hill.) is grown extensively as a truck crop in the lower Rio Grande Valley of Texas. A small portion of the crop is consumed in the state, but most of it is shipped to eastern markets such as New York, Chicago and other cities with large Italian populations. The plant is eaten raw or cooked as "greens".

On March 11, 1929, it was noticed in fields of anise in the vicinity of Weslaco that many plants were wilting or showed yellow leaves. Close examination of infected plants showed that many of the outside leaves were collapsed and lying on the ground, while the centers of the plants were pale yellow and wilted. The lower ends of the prostrated foliage were soft and slimy; and were covered with an abundance of white hyphae and masses of large sclerotia. The sclerotia were scattered on the ground and also on the outside and in the interior tissue of diseased leaf stalks. In late stages of infection, the causal organism was advancing from the lower leaves to the upper parts of the plants. In such cases the entire plant exhibited the typical "drop" appearance.

Under field conditions, anise is planted in rows three feet apart to enable horse cultivation and to facilitate irrigation. Due to their bushy and compact growth, however, the plants are naturally very shaded and continually moist. This condition no doubt favors the rapid spread of the disease. The writers have estimated a loss of from 5 to 10 per cent of the crop.

From the appearance of the sclerotia and the type of mycelial growth, the writers believe the fungus is probably Sclerotinia sclerotiorum or closely related to it. Pure cultures of the fungus are readily secured by planting the sclerotia in agar plates. The pathogenicity of the fungus will be tested out on anise and other crops. Some sclerotia have also been placed in moist sand to germinate with the hope of definitely establishing the identity of the fungus.

On numerous occasions the senior writer has found Sclerotinia sclerotiorum attacking various truck crops in south Texas. It is not uncommon during wet, rainy seasons to find the fungus attacking beans, lettuce, parsley, carrots, cabbage, parsnips, and turnips. So far as the writers are aware this is probably the first record of a Sclerotinia attacking anise.

WANTED

Specimens or cultures of:

Verticillium albo-atrum from eggplant and snapdragon
V. dahliae from dahlia

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TREES AND ORNAMENTALS

WILLOW SCAB (FUSICLADIUM SALICIPERDUM)

While travelling on other investigations, this fungus has been collected especially in northern New England as opportunity offered. It has been collected in the following towns, most of which are now reported for the first time:

Maine: Anson, Jackson, Waterville, Winthrop.

New Hampshire: Carroll, Chesterfield, Danbury, Piermont. Also noted at Wilmot Flat and Sunapee.

Vermont: Arlington, Barnard, Bethel, Brattleboro, Bridgewater, Castleton, Cavendish, Duxbury, Granville, Guilford, Halifax, Hancock, Marlboro, Middlesex, Montpelier, Plymouth, Pomfret, Poultney, Rochester, Rockingham, Shaftsburg, Sherbourne, Somerset, Stratton, Whitingham, Woodstock.

New York: Cherry Plain, Crown Point, New Lebanon, Petersburg.

Massachusetts: Amherst (found by Prof. W. H. Davis), Ashfield, Chesire, Conway, Cummington, Dalton, Deerfield, Great Barrington, Hancock, Hawley, Hinsdale, Leyden, Monroe, Orange, Otis, Pelham, Peru, Sheffield, Shelburne, Stockbridge, West Stockbridge, Windsor. Also noted at Worthington Center and Monterey.

Connecticut: Avon and Colebrook.

(Perley Spaulding, Sept. 16).

WILLOW DISEASE (Physalospora miyabeana)

This has been collected in connection with the widespread willow disease attributed to Fusicladium saliciperdum. It seems to fruit naturally only on young twigs or sprouts. This season has been so dry that it fruited naturally but little, but in a damp chamber it readily fruits in the Gloeosporium stage on suitably chosen twigs and sprouts. It has been found on material from the following places:

New Hampshire: Danbury, Jefferson, Piermont.

New York: Cherry Plain, Crown Point.

Massachusetts: Chesterfield, Lee, Orange, Peru, Pittsfield, Stockbridge.

Connecticut: Norfolk.

Because of its apparent limitation to twigs and sprouts, P. miyabeana is not collected as commonly as Fusicladium saliciperdum, but it seems to be as widely distributed in the Northeast. In some instances, trees bear scattered diseased leaves with little or no twig infection. These seem to have only Fusicladium saliciperdum. On the other hand, nearly all trees found affected have dead leaves bearing Fusicladium saliciperdum.

(Perley Spaulding, Sept. 19).

Editors note: In this connection, attention is called to a recent article (Nattrass, R. M. and H. R. Hutchinson, Black canker of the basket willow. Journ. Min. Agr. Gt. Brit. 36 (4): 363-369, July, 1929) which gives a good description of the disease caused by Physalospora miyabeana as it occurs in England.

WILLOW DISEASE IN THE EASTERN CANADIAN PROVINCES

By

J. Franklin Collins and Perley Spaulding

July 24th to August 9th the writers made an auto trip from Providence, R. I. to Calais, Maine, and thence through the provinces of Nova Scotia, New Brunswick and Quebec, making observations on the occurrence of the willow disease recently described by Clinton and McCormick. Two fungi occur quite generally on the blighted leaves and twigs, i. e., Fusicladium saliciperdum and Physalospora miyabeana. Others, of course, are found but these two seem to be nearly constantly present under suitable conditions. Most attention was given these species. The following notes were made, the localities being listed as visited: In the last column the letters indicate the fungus found: P. meaning Physalospora and F. meaning Fusicladium. One must know what to take for his specimens to get either fungus with reasonable certainty. Wherever sprouts with blackened tips are present, one may be quite sure of finding the Gloeosporium stage of Physalospora; the Fusicladium appears to be largely limited to certain leaves, commonly but one or two on each blighted twig tip. At first, specimens were taken largely of leaves only, so that there undoubtedly were a number of localities where the Physalospora was not taken that it was present and its real distribution is not shown by our data and specimens. On the other hand, it is quite evident that it is as widely distributed as is Fusicladium saliciperdum.

NEW BRUNSWICK

Pennfield	F
Hampton	F
Sussex	F
Baie Verte	PF
Robichaud Village, Shediac	F

Rexton . . . . . F
Chatham. . . . . .PF
Bathurst . . . . . F
Green Point, Beresford . . . . . .PF
Durham Centre, Durham. . . . . .PF
2 miles East of Charlo River, Colborne . . . . F
Charlo River, Colborne . . . . . P
Maple Green, Dalhousie . . . . . .PF

NOVA SCOTIA

Oxford . . . . . F
Stewiacke. . . . . F
Kimberly . . . . . F
Mill Village . . . . . F
Pleasant Lake Station. . . . . .PF
Yarmouth . . . . . F
Port Maitland. . . . . F
North Weymouth . . . . . F
Mochelle . . . . . F
Annapolis Royal. . . . . F
Digby . . . . . F
Middleton. . . . . F
St. Croix. . . . . .PF
Gaspereau. . . . . .PF
Grand Pre. . . . . .PF
Greenwich. . . . . F

PROVINCE OF QUEBEC

Mann . . . . . .PF
Mungos Brook, Shoolbred. . . . . .PF
Nouvelle . . . . . .PF
Maria . . . . . .PF
Bonaventure Village, Hamilton. . . . . F
Port Daniel. . . . . .PF
Barachois, Malbaie . . . . . .PF
York . . . . . F
Gaspe Basin. . . . . .PF
3 miles East of Rimouski,. . . . . .PF
St. Simon. . . . . .PF
Isle Verte . . . . . F
Riviere du Loup. . . . . F
Ste. Anne de la Pocatiere. . . . . .PF
Cap St. Ignace . . . . . .PF
Montmagny. . . . . .PF
St. Isadore. . . . . F
Ste. Marie . . . . . .PF

MAINE

Moose River. . . . . .PF
Jackson. . . . . .PF
Anson. . . . . F
Norrigwock . . . . . F
Winthrop . . . . . .PF

SOME SPECIMENS RECEIVED

Glomerella cingulata (Ston.) Spauld. & Schrenk, on Symphoricarpos sp., Amherst, Massachusetts, September 1. Collected and determined by W. H. Davis, Yonkers, N. Y., September 6 and Norbeck, Maryland, September 11. Collected and determined by G. Hamilton Martin.

Phomopsis ryckholtii (Nke) v. Hoehn. on leaves of Symphoricarpos sp. Norbeck, Maryland, September 11, collected and determined by G. Hamilton Martin. First report to the Plant Disease Survey for the United States.

Erysiphe cichoracearum DC., powdery mildew on Zinnia elegans, Yonkers, New York, September 6, New Brunswick, New Jersey, September 3, Washington, D. C., September 1, collected and determined by G. Hamilton Martin; Norfolk, Virginia, September 14, collected and determined by F. P. McWhorter.

FRUIT DISEASES

APPLE SCAB NOTE FROM CENTRAL PENNSYLVANIA

During the period of September 11 to 21, a check-up on apple scab was made in the counties of Luzerne, Franklin, Cumberland, Dauphin, and Juniata. The check-up was made by counting 500 apples of each variety.

Where there was proper spraying as per spray schedule, there was an average of 0.5 per cent scab. Improper spraying such as lack of proper coverage, missing certain sprays, etc., gave an average of 43.33 per cent scab. In unsprayed orchards, there was an average of 87.26 per cent scab.

Two demonstrations were checked:

In Luzerne County an unsprayed McIntosh tree yielded 181 apples or 1/3 bushel - 100 per cent scab. Sprayed tree yielded 223 apples per bushel or a total yield of 13 1/2 bushels. In the bushel of apples counted 93.7 per cent were clean.

In Dauphin County unsprayed Rome were 81.4 per cent scab against 0.4 per cent scab for sprayed Rome. Unsprayed Stayman were 87.1 per cent scab as against 0.2 per cent scab for sprayed Stayman.

(George L. Zundel, Sept. 27).